easily be overlooked in a dried specimen, *K. Smithii* differs from *K. brunnea* and *K. lanosa* by the absence of an interfemoral fringe, from *K. africana* by the presence of a secondary cusp on the outer upper incisors, and from *K. œrosa* by the comparatively large size of the same tooth. All the other species hitherto described are from the Oriental Region.

I propose to name this species after the donor of this most acceptable addition to the national collection of Chiroptera.

PROCEEDINGS OF LEARNED SOCIETIES.

GEOLOGICAL SOCIETY.

April 14, 1880.—Robert Etheridge, Esq., F.R.S.,
President, in the Chair.

The following communications were read:—

1. "On a new Theriodont Reptile (*Cliorhizodon orenburgensis*, Twelvtr.) from the Upper Permian Sandstone of Kargalinsk, near Orenburg, in South-eastern Russia." By W. H. Twelvetrees, Esq., F.L.S., F.G.S.

The above measures are cupriferous, and rest on limestone with Zechstein fossils. Associated with the remains of Saurians and Labyrinthodonts are *Calamites*, *Lepidodendron*, *Aroides crassispatha*, Conifers, and a *Unio*. The specimen noticed in this paper is apparently the dentary part of the left mandibular ramus, with the crowns of a canine, an incisor, and ten of the molars. The author describes the characteristics of these and the mode of implantation in the jaw, which accords with that described by Prof. Owen in *Titanosuchus ferox*. The characters of this specimen resemble those of the genus *Rhopalodon*; but as there are some marked differences, the author proposes to name it *Cliorhizodon orenburgensis*.

2. "The Classification of the Tertiary Period by means of the Mammalia." By Prof. W. Boyd Dawkins, M.A., F.R.S., F.G.S., Professor of Geology in Owens College.

The author, after some introductory remarks on the value of Vertebrata and Invertebrata in classification, pointed out that the Mammalia become of especial value in the Tertiary period, undergoing more rapid change than the other classes, from their being, as it is happily termed, *en pleine évolution*. He discussed the characteristics of each of the great periods, as defined and limited by their Mammalia, pointing out that throughout the Eocene these frequently exhibit relations more or less marsupial. Indeed it is not till the close of the Lower Miocene that the traces of this relationship are lost. In the Middle Miocene *Sus*, *Cervus*, *Antilope*, *Felis*, *Lutra*, and *Castor* appear for the first time, and the higher Apes were present in European forests. In the Upper Miocene

Camelopardalis, *Gazella*, *Hyæna*, and *Hystrix* appear. During the Pliocene several important genera disappear from the world or from Europe—among the latter the Apes, at the close of the Upper Pliocene. Oxen, Horses, Bears, and Elephants appear. Great changes took place in the Pleistocene: seven species survived into it which are now extinct; and of new comers there were fourteen living and seven extinct species. *Cervus megaceros* is the sole survivor from the Pleistocene to the prehistoric period which has since become extinct. The paper concluded with some remarks on the latter part of the first and the second period, which, however, as forming the subject of previous notices, was treated more briefly. The author remarked that a study of the development of the Mammalia renders it hopeless to expect to find Man in the Eocene or Miocene, and improbable in the Pliocene.

April 28, 1880.—Robert Etheridge, Esq., F.R.S.,
President, in the Chair.

The following communications were read:—

1. "Description of parts of the Skeleton of an Anomodont Reptile (*Platypodosaurus robustus*, Ow.) from the Trias of Graaff Reinet, South Africa." By Prof. Owen, C.B., F.R.S., F.G.S.

The author referred to some Triassic reptiles from South Africa, already described by him, as showing certain resemblances to implacental Mammals. Another still more interesting indication of such resemblances is furnished by some remains from Graaff Reinet received from Mr. E. J. Dunn. These consist of some thoracic vertebræ with portions of ribs, a sternal bone, a scapula, and a right humerus, found imbedded in one mass of rock, and of a femur and phalanges and a pelvis in another mass.

The author described these bones in detail. The vertebræ were said to agree most nearly with those of *Dicynodon* and *Oudenodon*. The supposed sternal bone is of a rounded hexagonal form, and is regarded by the author as the anterior bone of the sternum proper, which is usually unossified in recent lizards, but well ossified in *Ornithorhynchus*. In the scapula also the author pointed out resemblances to that bone in *Ornithorhynchus*. The humerus in its general proportions, and especially in the great development of its ridges, was also shown to resemble the same bone in the Monotremes. The ungual phalanges were described as broad and obtuse, probably constructed to bear claws adapted for digging, as in *Echidna*; the femur also resembles that of the last-named animal.

The author remarked upon these approximations to the Monotrematous Mammalia, in allusion to which he proposed the name of *Platypodosaurus robustus* for this animal, the humerus of which was 10½ inches long and nearly 6 inches broad at the distal end. He also alluded to the interesting problems opened up by the study of these South-African reptiles, in connexion with their possible relationships to the low implacental Mammalia of New Guinea, Australia, and Tasmania.

2. "Note on the Occurrence of a new Species of *Iguanodon* in the Kimmeridge Clay at Cumnor Hurst, three miles west of Oxford." By Prof. J. Prestwich, M.A., F.R.S., F.G.S.

The pit in which the occurrence of *Iguanodon* was discovered was worked in Kimmeridge Clay at the foot of an outlying mass of Lower Greensand forming an isolated hill. The Portland beds, which occur at Shotover, are here wanting. The bones were found in a thin sandy seam intercalated in the clay, and traversing the hill, at least 15 feet below the Greensand. The skeleton was probably almost entire; but, as attention was not directed to it until nearly all the clay had been removed, many bones were lost and others injured. Several vertebræ of *Ichthyosaurus* were found in the same seam, and the characteristic *Gryphæa virgula* occurred in profusion. The clay above and below contained fossils of Kimmeridge types. The author stated his opinion that land probably lay to the south-west of the Oxford district.

3. "On *Iguanodon Prestwichii*, a new Species from the Kimmeridge Clay." By J. W. Hulke, Esq., F.R.S., F.G.S.

In this paper the author described in detail the remains of *Iguanodon* found at Cumnor Hurst in the Kimmeridge Clay, as described in the preceding paper. They illustrated nearly every part of the skeleton of an immature individual, adding greatly to our knowledge of the variation of the vertebræ in the several regions of the vertebral column, and of the structure of the head and hind limbs. In the latter, both the tibia and the fibula articulate (as in embryo birds) with the os calcis, which bone is now first identified in *Iguanodon*. The sacral vertebræ were only four in number; and the species further differed from the Wealden *Iguanodon Mantelli* in the simpler character of the serration of the teeth, of which the lamellæ are not mamillated, and in having the vertebræ of the trunk and sacrum not so compressed. The author named the species *Iguanodon Prestwichii*.

MISCELLANEOUS.

On the Organization and Development of the Gordii.

By M. A. Villot.

In again treating of this interesting subject, which has constantly occupied me for the last eight years, I propose to make known certain facts which had escaped my former observations, and to remove the doubts which the latter have left in the minds of several naturalists.

The detailed descriptions and the figures that I have given of the first larval form of *Gordius* have been recognized as correct by the observers who have followed me. I have, however, an omission to make good. I forgot to say, in my monograph, that the three styles with which the trunk is armed are moved by the same number of